JPE Best Paper awards (2021)

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Editorial

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In 2022, *Journal of Plant Ecology* (JPE) established the JPE Best Paper awards to recognize the papers published in JPE with high impacts in the field of plant ecology (Zhang and Schmid 2022). This award is given annually to the first author(s) of two to five papers selected by the editors based on the novelty and contributions to the field of plant ecology. We place extra emphasis on the authors who have completed their graduate studies less than 5 years prior to submission of the paper to encourage early-career scientists to submit their work to JPE. A 'JPE Best Paper' certificate and a price money of Chinese RMB 5000 are awarded to the authors of JPE best papers.

This year, we selected the best papers from all the articles published in the year of 2021. We are delighted to announce the three winners of a 'JPE Best Paper' award and highlight the significance of these papers below.

Sexual differences and sex ratios of dioecious plants under stressful environments (Liu *et al.* 2021)

The authors review how males and females respond to abiotic and biotic stressors, and discuss the causes for sex-related differences in stress responses and tolerance. Sexual dimorphism may influence the frequency and distribution of the sexes along environmental gradients, thus causing niche differentiation and spatial segregation of sexes. This review advances our knowledge on sexually dimorphic responses to environmental stressors.

Changes in soil microbial community structure and function following degradation in a temperate grassland (Yu *et al.* 2021)

Grassland degradation often leads to decreases in soil bacterial but not fungal diversity, reflecting that the soil bacterial community is more sensitive to degradation than the soil fungal community. Yu *et al.* (2021) report that belowground biomass, soil organic carbon and total nitrogen in a temperate grassland are positively related to changes in soil bacterial diversity. In addition, they found that degradation had a significant impact on the putative functionality of soil bacteria associated with soil carbon and nitrogen cycling. These findings provide new insights into grassland functions and services under degradation in the temperate grassland.

Nitrogen addition affects plant biomass allocation but not allometric relationships among different organs across the globe (Yue *et al.* 2021)

Based on the analyses of 5474 paired observations, Yue *et al.* (2021) discovered that while nitrogen addition significantly increased plant biomass it also led to decreased root:shoot ratio and root mass fraction. They further demonstrated that plant biomass allocation patterns under nitrogen addition were more appropriately explained by an isometric allocation hypothesis than an optimal partitioning hypothesis. These results contribute to our understanding of N-induced effects on allometric relationships in terrestrial plants.

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Miao Liu

Dr. Liu is now an associate professor at Hangzhou Normal University. She studies plant–pant interaction on forest quality and production and focusing the roles of carbon exchanges between plants and fungi in regulating the availability of soil nitrogen and phosphorus. She is also interested in phytoremediation under heavy metal-contaminated soils. She obtained her PhD degree in Plant Nutrition from Zhejiang University in 2017.

Yang Yu

Dr. Yu is now a lecture at Hebei University of Environmental Engineering. Her research interests focus on global change biology and soil microbial ecology. She mainly explores the impacts of global change on rate and composition of root exudations, rhizosphere and non-rhizosphere microorganism diversity and community composition, carbon and nitrogen cycling genes and their relationships. She obtained her PhD degree in ethnoecology from Minzu University of China in 2023.

Kai Yue

Dr. Kai Yue is now a research professor at Fujian Normal University. His research locates in the fields of forest ecology, soil ecology, plant ecology and global change ecology. His current research mainly focuses on the cycles of carbon and nutrients across terrestrial and aquatic ecosystems and their responses to the individual and combined effects of multiple concurrent occurring global change factors such as warming, nitrogen deposition, drought and land-use change. He obtained his PhD degree in Ecology from Sichuan Agricultural University in 2007.